ENVIS Centre on
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BUCEROS

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ABOUT ENVIS

ENVIS (Environmental Information System) is a network of subject-specific centres located in various institutions throughout India. The focal point of the present 66 ENVIS centres in India is at the Ministry of Environment, Forests, and Climate Change, New Delhi, which further serves as The Regional Service Centre (RSC) for INFOTERRA, the global information network of the United Nations Environment Programme (UNEP) to cater to environment information needs in the South Asian sub-region. The primary objective of all ENVIS centres is to collect, collate, store and disseminate environment related information to various user groups, including researchers, policy planners, and decision makers.

The ENVIS Centre at the Bombay Natural History Society was set up in June 1996 to serve as a source of information on Avian Ecology.

Objectives of the ENVIS Centre at BNHS

- To create a bibliographic database of published literature related to avian ecology study
- To publish and distribute *BUCEROS* newsletter on avian ecology to its members
- To create and upload databases on avian ecology on ENVIS website www.bnhsenvis.nic.in
- To reply to queries related to birds

Lesser Flamingo *Phoeniconaias minor*
Photograph : Pranit Gupte

BNHS INDIA CONSERVING NATURE SINCE 1883

BUCEROS

ENVIS Newsletter
Avian Ecology
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Cover
Indian Skimmer *Rynchops albicollis*
by Asif N. Khan

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EDITORIAL

Need for effective implementation of conservation initiatives

There is a need to adopt new methodologies to deal with the conservation issues in human dominated landscapes. Though many factors are responsible for decline in population of birds, obviously the major stake is of human induced issues. For example, it has been found by scientists that diclofenac, a veterinary drug which is responsible for the catastrophic loss in population of Gyps vultures is also affecting other scavenging birds like Steppe Eagle *Aquila nipalensis*. This also addresses the issue of lacunae in effective implementation of the ban on diclofenac which is still administered to livestock illegally.

Tracking movement of birds using satellite transmitter studies is an essential tool for conservation of birds. In India, such studies have been done mainly on migratory birds like ducks and geese. The government initiative to tag important resident and Critically Endangered birds like Great Indian Bustard *Ardeotis nigriceps* and vultures is a welcome sign for wildlife studies in Maharashtra, India. It is important to know the foraging and breeding areas of birds in protected as well as non protected areas for the preparation of improved and effective conservation plans.

A new initiative by the forest department to create a safer environment for birds by neutering dogs in and around the core areas of the Bustard Sanctuary in Kutch will be another milestone in wildlife conservation in India. This project may raise some issues while implementing it on the ground but we need to tackle this properly to save the species from extinction.

Recently, a German team used orientation cages and changed the magnetic field surrounding the cages to see the changes in direction of movement of birds and found that weak electromagnetic fields produced by equipment plugged into mains electricity and radio signals interfere with the animals' "internal compass". There is a need to replicate such studies to know the impact of new technologies on wildlife in India. The Government has always given the excuse of data unavailability while preparing policies before adopting new technologies. It is necessary that the government should provide sufficient funding as well as permission for conducting impact assessment studies.

Readers will also get to know about 15 evolutionary distinct and globally endangered (EDGE) bird species in this issue. It is a tragedy that uniqueness has become a constraint, and a driver of extinction for these habitat specialist birds. We need to conserve these birds, in whichever way possible, as a unique genepool.

Sujit S. Narwade
Scientific Advisor

Eagles facing threat from diclofenac

Steppe Eagles may soon disappear like vultures, as the raptor species has been found to be under threat from the killer veterinary drug diclofenac.

According to a paper published in *Bird Conservation International*, a journal from Cambridge University Press, two Steppe Eagles were found dead at a cattle carcass dump in Rajasthan and had diclofenac residue in their tissues. "We now know that diclofenac is also toxic to Aquila eagles. This suggests that the drug is fatal to a greater number of birds of prey in Asia, Europe and around the world. We had suspected as much from observed declines in non-Gyps vultures in Asia, but this study confirms our worst fears," co-researcher of the report Toby Galligan said.

The investigation was done by scientists from the Bombay Natural History Society (BNHS), UK-based Royal Society for the Protection of Birds (RSPB) and the Indian Veterinary Research Institute in Bareilly. BNHS director Asad Rahmani said an increasing number of raptor species are falling prey to diclofenac. "It is now of paramount importance that the existing ban on veterinary diclofenac in India should be strictly enforced," he said.

Diclofenac is banned in India, but is still administered to livestock illegally. The drug is poison for vultures, which feed on carcasses of animals to survive. As a result, the population of vultures has declined by an alarming rate of over 99 per cent during the last two decades.

Recent findings in Rajasthan show the same clinical signs of kidney failure as were seen in Gyps vultures after they had ingested diclofenac. Researchers say they have observed extensive visceral gout, lesions and uric acid deposits in the liver, kidney and spleen of the two birds and diclofenac residue in the tissues. Although a bird of prey, Steppe Eagle also feeds on carcass dumps. It is a winter visitor to most areas in northern and central India and some areas in western and eastern India.

Other species of Aquila eagles that are known to frequent carcass dumps include Tawny Eagle, Eastern Imperial Eagle and Indian Spotted Eagle. Scientists now fear that all species in this genus, known as *Aquila*, are susceptible to diclofenac, the paper said.

Source: http://www.newindianexpress.com/nation/Eagles-Facing-Threat-from-Diclofenac/2014/05/27/article2248626.ece

Vultures to be tracked with transmitters in Maharashtra

The state forest department and Bombay Natural History Society (BNHS) will launch an *in situ* vulture conservation project in Maharashtra from next month. The Rs 1 crore project will be funded by Compensatory Afforestation Fund Management and Planning Authority (CAMPA).

As part of the project, vultures will be tracked by satellite using a platform transmitter (PTT) to study their foraging range. The birds will be caught and satellite transmitters will be put on their backs, to track their movements. The transmitter will have GPS units attached so accurate information will be available about its location. It would also be possible to obtain the vulture carcass if it dies for any reason. The cause of mortality will be determined by a post mortem examination.

The forest department is implementing a similar project to tag endangered Great Indian Bustards (GIBs) with the help of Wildlife Institute of India (WII). BNHS is engaged in vulture conservation and captive breeding for nearly a decade now. The *in situ* or on-site conservation is conservation of genetic resources in natural populations of plant or animal species.

BNHS Principal Scientist Dr. Vibhu Prakash was in the city to discuss the proposal with Chief Wildlife Warden Mr. Sarjan Bhagat on Tuesday. "We asked BNHS to modify its proposal and include other vulture landscapes in Thane and Nashik as well. Presently, vultures are found in Pench and Gadchiroli, but we don't have any details about the species and its numbers, except for its distribution in certain pockets," said Bhagat.

Dr. Vibhu Prakash said that in order to conserve birds on-site, an area of 100 km radius (30,000 sq. km) around the vulture nesting site needs to be made safe from diclofenac and other factors affecting vulture population. This is the line of thought behind making Vulture Safe Zones. The project has been initiated in Gujarat, Uttar Pradesh, Jharkhand and Uttarakhand by BNHS with state bodies. The initial proposal, submitted by BNHS 15 days ago, is based on locations 100 km away from Umred, the main centre. It includes vulture landscape in Pench, Gadchiroli, Yavatmal, Umred, Wardha, and Pench and Tadoba Tiger Reserves.

Prakash said the project is for five years. It will help vulture conservation by making sure there is no diclofenac in vulture food. This is the drug responsible for the crash in vulture populations and continues to kill vultures. The misuse of multi-dose vials of human-use formulations of the drug for treating livestock is a major problem for vultures. The project will make sure that by advocacy, awareness programmes and executive action, misuse of the drug is stopped in this identified region. The vultures get exposed to the drug when they feed on the carcass of livestock that have died within 72 hours of administration of diclofenac.

"We will submit a revised proposal this month. Awareness, advocacy and monitoring are the three major components of this whole exercise. The project will include data collection, species identification, getting details about nesting sites, population, etc about vulture species," Prakash said.

In a span of a few years in the 1990s, nearly 99% of vultures in India and other South Asian countries vanished. However, in protected areas like Pench in Maharashtra, their number is now growing.

Source: http://timesofindia.indiatimes.com/home/environment/flora-fauna/Vultures-to-be-tracked-with-transmitters-in-Maharashtra/articleshow/36073480.cms

Neutering dogs to help bustards breed in peace

To arrest the decline in numbers of the Great Indian Bustard (GIB), a Critically Endangered species, the forest department has attempted to create a safer environment for the bird by neutering dogs in and around the core areas of the Bustard Sanctuary in Kutch.

Less than 200 birds are believed to be left in the country, with Rajasthan accounting for the highest number of birds at 100. The second highest number of the birds is found in Gujarat. In 2007, a state census had pegged the number of birds in Gujarat at 48. Mr. P.A. Vihol, Divisional Forest Officer, Kutch, informed that a pilot project is being carried out to deploy neuter dogs in the core villages where the bustard population is found. "We will begin with two villages in the core areas having maximum bustard population. We will also be carrying out a socio-economic survey in the 48 villages that form the 1,000 sq. km area in which the bird species roam. This is because we plan to implement the project with people's participation," said Vihol. He said the department was also looking at fencing the bustard area and had recently carried out removal of *Prosopis juliflora*, an invasive weed, from the area.

As for the neutering the stray dogs, Vihol said that the canines are a big threat to the birds, often attacking the birds and even eating their eggs. Bustards, being shy birds, like to breed in isolation. Moreover, they lay just one egg a year, and this is also the reason why their numbers are limited. The dogs often chase the birds which breed outside the sanctuary area and this disturbs their breeding pattern.

The forest department is carrying out the project in association with the Corbett Foundation. A survey had found that there are around 853 dogs in 20 villages in the … sanctuary and its surrounding places, of which around 300 are adult male dogs.

Member of the state-level Bustard Conservation Committee, Dr. Devesh Gadhvi said that it was important to counter the population of stray dogs. "Stray dogs pose a threat not only to the bustards, but also to the Desert Fox in Kutch. The dogs chase the nesting bustards and the female then gives up on the eggs. The dogs also kill the young ones of the fox," said Gadhvi. He said many of the dogs are community-owned (community or village feeds them) and hence it was important to have people's participation.

"Moreover, the high number of dogs also poses a threat to the villages. All dogs that will be neutered will also be given anti-rabies vaccine. This project will benefit both the birds and the people as well," said Gadhvi, who revealed that around 3,500 people were victims of dog-bites in Bhuj alone in a year.

He said apart from these efforts it was necessary to look at captive breeding of the birds if the declining numbers have to be arrested. "The forest department's recent effort to clear the grassland of Gando Baval [*Prosopis juliflora*] bore fruit as within seven days the birds were seen visiting the newly cleared place," said Gadhvi.

Source: http://www.dnaindia.com/ahmedabad/report-neuter-dogs-to-help-bustards-breed-in-peace-1985342

Electrical devices 'disrupt bird navigation'

Electrical devices may disrupt the migration of some birds, a study suggests. A German team has found that weak electromagnetic fields produced by equipment plugged into mains electricity and AM radio signals interfere with the animals' "internal compass". They believe the effect is greatest when birds fly over urban areas.

The study is published in the journal *Nature*. Prof. Henrik Mouritsen, from the University of Oldenburg in Germany, who carried out the research, said: "At first, I was highly sceptical that this could be the explanation. But if you have seemingly unlikely effects then the proof needs to be much stronger – and that is why we have done so many experiments over seven years and it has taken a long time before we were confident to come out with this to the public."

Some birds perform remarkable feats of navigation, migrating half way around the world. It is thought that a built-in magnetic compass, which senses the Earth's magnetic field, helps them to find their way. Prof. Mouritsen told BBC News that he stumbled across the fact that low frequency waves could be interfering with this by accident while studying European robins.

"The basic experiment we do in bird navigation research is that we put birds into an orientation cage," he explained. "They are so eager to migrate, that they will jump in the direction in which they want to fly, and if you turn a static magnetic field in the horizontal plane they will start to jump in a different direction." That experiment has worked for more than 40 years in a number of locations.

"But here in Oldenburg, we couldn't get that basic experiment to work until one day we got the idea to screen these huts on the inside with aluminium plates so the electromagnetic noise was reduced about 100 times and suddenly the birds started to orientate."

Over the course of the next seven years, he and his team carried out numerous experiments to look at how the weak electromagnetic field affected the behaviour of the robins.

In essence, he found that birds exposed to electromagnetic "noise" between 50 kHz and 5 MHz lost all sense of direction. But when the field was blocked out, they found their bearings again.

Prof. Mouritsen said that migratory birds flying over towns and cities, where there are more homes and businesses that use electrical devices, would be most affected – and they would probably resort to back-up navigational systems.

"The birds wouldn't be completely lost because they have three different compasses: a star compass, a sun compass and a magnetic compass, and they work independently of each other. As long as it is clear they should be fine with their sunset compass or star compass."

Source: http://www.bbc.com/news/science-environment-27313355

Threat to eagles as deadly drug is licensed

Scotland's rare Golden Eagle and other birds of prey could be under threat from a newly licensed veterinary drug blamed for nearly wiping out vultures, new studies warn. Veterinary diclofenac, a medicine for livestock, has been linked to the poisoning and rapid decline of the once common Gyps vultures on the Indian subcontinent.

Numbers plummeted by 97% in just 15 years between 1992 and 2007.

Conservationists fear Europe's birds of prey could face the same fate after the drug was authorised for manufacture and use in Italy and Spain, and could then be exported unchecked throughout the European Union, it has been claimed.

Just months after it was licensed for use in Europe, two new studies showed that a greater diversity of birds of prey, including some eagles, are more susceptible to its effects than previously thought. Campaigners hope to reverse the decision in a bid to protect British and European bird numbers.

One paper published in the journal *Bird Conservation International* showed the results of tests carried out on two Steppe Eagles found dead at a cattle carcass dump in Rajasthan, India. Both birds had diclofenac residue in their tissues and suffered kidney failure similar to Gyps vultures experimentally given diclofenac. Conservationists argue that Steppe Eagles are closely related to Golden Eagles and other globally vulnerable or declining Eurasian raptors. They fear that all species in this genus, known as *Aquila*, are susceptible to diclofenac.

Dr. Toby Galligan, RSPB conservation scientist, said: "We have known for some time that diclofenac is toxic to Gyps vultures, including the Eurasian Griffon Vulture, but we now know it is toxic to an Aquila eagle too." This suggests that the drug is fatal to a greater number of birds of prey in Asia, Europe and around the world. "We had suspected as much from observed declines in non-Gyps vultures in Asia, but this study confirms our worst fears."

In another paper published in April's *Bird Conservation International,* Dr. Galligan led an examination of recent population trends in Egyptian and Red-headed Vultures in India.

That study shows population declines on a similar scale, providing indirect evidence that these species have been impacted by diclofenac as well. Dr. Galligan said: "In light of recent developments in Europe, our findings take on an even more worrying meaning. All of Europe's charismatic Aquila eagles, like the Spanish Imperial Eagle and, closer to home, the Golden Eagle, are opportunistic scavengers and therefore could be at risk of diclofenac poisoning."

The Uk's Veterinary Medicines Directorate (VMD) which regulates animal medicines said that it is "taking the issue of diclofenac's risks to vulture populations seriously". A spokesman added that as a precautionary measure the VMD will not approve any requests from vets to import products containing diclofenac.

Source: http://www.heraldscotland.com/news/home-news/threat-to-eagles-as-deadly-drug-is-licensed.24330540?utm_source=www.heraldscotland.com&utm_medium=RSS%20Feed&utm_campaign=Scottish%20News

Species on the EDGE

Neha Sinha, Advocacy Officer, BNHS

SAURABH DESAI

Egyptian Vulture *Neophron percnopterus*

ASIF N. KHAN

Red-headed Vulture *Sarcogyps calvus*

ASAD R. RAHMANI

Lesser Florican *Sypheotides indicus*

NIKHIL SHINDE

Bengal Florican *Houbaropsis bengalensis*

What does a bird mean to you?

For most people, a bird seen in childhood was their first encounter with wildlife. Birds are nearly omnipresent, it is possible to hear their dawn chorus in the most unliveable of cities, see them skimming over pastoral landscapes, and infusing life and joyous colour to wetlands. Some people cherish birds because they are one of the most visible of wild species, for example, Peregrine Falcons have adapted to New York City. Others cherish birds because of the rarity and spectacle they represent.

DELIP K. DAS (BISHARGA)

Spoon-billed Sandpiper *Eurynorhynchus pygmeus*

NANDKISHOR DUDHE

Forest Owlet *Heteroglaux blewitti*

Yet despite being a visible genus, and valued by us under different measures, there are several birds which are teetering on the jaws of extinction. And while they teeter, they are unsung and unwept by most. A study by Yale University and the Zoological Society of London has named 100 of the rarest birds on the planet. 'Rare' is a misnomer, as it means nothing in itself, so let us understand better what is meant by rarity or uncommonness in the context of extinction probability. The study ranks birds which have two separate features: one, evolutionary distinctiveness, and two, a status of being globally endangered. Are the two features interdependent? Sadly for birds, the answer is yes. Species that have evolved in a distinct fashion – exhibiting different appearances, behavioural traits and feeding habits – usually do so because they have evolved in isolation. With habitats comprising small geographic ranges, or unique niches in ecosystems interspersed over geographic ranges, these birds, favoured subjects in the science of evolution, are losing out to the reality of commerce and human society. Simply put, in today's world, the smaller the habitat and the more unique the needs of the species, the greater is its vulnerability to extinction, local or global.

Of the 100 evolutionarily distinct and globally endangered (EDGE) species, as many as 15 are found in India. These are the Bengal Florican *Houbaropsis bengalensis*, Forest Owlet *Heteroglaux blewitti*, Red-headed Vulture *Sarcogyps calvus*, Egyptian Vulture *Neophron percnopterus*, Jerdon's Courser *Rhinoptilus bitorquatus*, Lesser Florican *Sypheotides indicus*, Spoon-billed Sandpiper *Eurynorhynchus pygmeus*, Sociable Lapwing *Vanellus gregarius*, Siberian Crane *Grus leucogeranus*, Great Indian Bustard *Ardeotis nigriceps*, Greater Adjutant *Leptoptilos dubius*, White-bellied Heron *Ardea insignis*, Wood Snipe *Gallinago nemoricola*, Masked Finfoot *Heliopais personatus* and Christmas Island Frigatebird *Fregata andrewsi*. The fact that 15 species with evolutionary distinctiveness are found in our country is something we should be proud of – India has been, and still is, a cradle for speciation and evolution. Birds have evolved on the edges of vanishing wetlands formed by our long rivers, they have evolved in the nooks and crannies of the Himalayan mountains, and the edges of our coastlines, and have also evolved to visit India, crossing seas and skies. These birds form part of our natural heritage. Can this heritage be a living legacy we leave behind for our children? This is no longer a hypothetical question, but one that needs to be answered urgently. Each of these 15 species is endangered, some critically so. In the absence of conservation attention, planning and management, these species will surely become extinct.

SATPAL SINGH GANDHI

Siberian Crane *Grus leucogeranus*

ASAD R. RAHMANI

Great Indian Bustard *Ardeotis nigriceps*

Fortunately, of these 15 species, BNHS and its partners are working on the conservation of twelve species. The battle to save these species – a struggle mounted to prioritise biodiversity conservation over other people-based needs – is a cyclical one. Small successes in conservation often lapse into new challenges as the pressures are ever-growing, such as pressures to burn grasslands to the ground and convert them to intensive agriculture, or to clear coastlines to make ports and water salination plants, or fell forests to build huge infrastructure projects.

Let us look at some of the pressures on some of these EDGE species. The Great Indian Bustard is the most obvious species to start with. Named after India, this is by all standards a magnificent bird. It has a deep booming call, and long ranges where it disperses. Strutting like princes, these birds forage over large areas, taking flight paths that we have not fully mapped. The areas the GIB lives in are quite specific: either grasslands, or scrubland and grassland interspersed with agro-grasslands. The Lesser Florican, also a bustard species, is found in similar niche habitat. Scientists and bird lovers can marvel how specific the needs of these birds are, in the temperature they need to live in, the things they feed on, and the way they adapt their nests to these open landscapes. But for all practical purposes, these sources of evolutionary wonder have habits that hem them in to smaller and smaller areas. Today, pesticides are corroding bustard landscapes, and agriculture itself is becoming more and more intensive and hungry. Grasslands are constantly under threat from land-use conversion and overgrazing by thousands of cattle. With loss of its habitat, the very niche that the bustard occupies is being lost. These are indicators of how our dry grasslands and arid pastoral landscapes are faring.

Another EDGE bird species, which occupies a completely different habitat, is the Spoon-billed Sandpiper. Found on coastal mudflats, this bird has a unique, spoon-shaped beak. In the baby bird, the edge of the beak looks like a tiny heart. In the adult, the beak resembles a spoon with a long 'handle'. This is a testimony to how this bird has evolved over the sticky, squelchy sand-and-mud-flats on Asian coasts. The Spoon-billed Sandpiper uses its beak – its own cutlery, in a manner of speaking – to forage for food. Its long legs help it to move over slick, slippery coastal areas. But coastal areas, inhabited by the Spoon-billed Sandpiper for centuries are being taken over, patch by slippery patch. The East Coast is transforming into something very different – desalination plants which change the mix of salinity in sea water, thermal power plants which increase the temperature of water by several degrees, and major infrastructure which is simply building over coastal mudflats. For a migratory bird like the Spoon-billed Sandpiper, the changing mosaic of the eastern coast of India must be more and more bewildering – and chillingly alien – year after year.

ASAD R. RAHMANI

Greater Adjutant *Leptoptilos dubius*

ASIF N. KHAN

White-bellied Heron *Ardea insignis*

These two habitats – one dry, the other wet – are metaphors for other habitats used by the other EDGE species, with each habitat being unique and remarkably different. It is certainly a modern day tragedy that uniqueness has become a constraint, and a driver of extinction.

Science and ornithology have shown us, clearly, the distinctiveness of these species. If there weren't so many anthropogenic changes to natural wilds and ecosystems, perhaps this distinctiveness would not have been a drawback to their numbers, and their very survival. In understanding the needs of these species, and the perilously low numbers they have fallen to, we have to revalue these species as a society. As scientist Carl Sagan said, science and spirituality are similar, and should feed into each other. While science has identified for us the species that need conservation input most urgently, valuing this natural and scientific heritage in the light of ethics is part of the answer. Both science and ethics suggest that we need to conserve these birds, for whichever, if differing, values they hold for us – a unique gene, a behavioural trait that is a delight and a curiosity, and national pride.

For at least one of the species on the list, the Siberian Crane, the future in India is already dimmed with disadvantages. Since the turn of the century, these tall, scarlet-chinned cranes have stopped coming to India on their annual flight from Siberia. With all the stochasticities the human-shaped world has thrown at these birds, perhaps the last one is the fact that they cover huge distances in their migrations – falling to bullets and other forms of destruction.

The Siberian Crane, with its precise habitats, and its relatively small needs, is like a trenchant, poignant call to our action and consciences. We need to combine forces – of the science that studies evolutionary origins – and our intent as a society, to separate 'evolutionary distinctiveness' from 'globally endangered'. It does not need to be a *fait accompli* or a foregone conclusion that birds and animals with small habitats and niches need to suffer annihilation. It is like saying that a community that eats only the tender leaves of a particular plant for breakfast should perish for this specificity of need.

Birds mean a lot to us. Today, due to our altering of the natural world, they are suffering. The birds with meticulous, unambiguous needs, are suffering the most. The time to intervene has never been more urgent.

Territoriality in Kerala Laughingthrush *Strophocincla fairbanki meridionalis*

Vivek Chandran, A. & Praveen J.

The Kerala Laughingthrush *Strophocincla fairbanki* is a Near Threatened, endemic species of the Western Ghats of southern India, south of the Palakkad Gap (=Palghat Gap). Within its restricted range, it has two subspecies – the more widespread nominate race found in the high ranges north of the Shencottah Gap; and *meridionalis*, occurring south of the Gap. A study on territoriality was carried out on the latter at four study sites, namely Pandipath, Pandimotta, Kodayar, and Mahendragiri, in the Agasthyamalai hills from January 2011 to March 2011 after a pilot study in December 2010. Territory size of 30 pairs was estimated by following them and marking their locations using a GPS unit. The territories were found only in shola forests above 1,200 m above msl. Territories were not recorded in tea plantations, grasslands, scrub dominated rocky areas, bare rocky areas, forest patches adjoining reservoirs, and in large swathes of *Ochlandra*. The average territory size was estimated to be about 2 ha. No overlap of territories was observed and the territories were separated by an average distance of 66.04 m. Pairs were formed and territories defended only in the breeding season. Habitat loss and deterioration were identified as serious threats to the subspecies.

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Population, breeding and threats to the White-rumped Vulture *Gyps bengalensis* in Bangladesh

Khan, M.M.H.

The population of the White-rumped Vulture *Gyps bengalensis* in Bangladesh has declined very rapidly in recent years, so a research-cum-conservation project was launched in July 2008 that continued until June 2012. Three species of vultures were found during the survey – White-rumped Vulture, Himalayan Vulture *Gyps himalayensis* and Cinereous Vulture *Aegypius monachus*. Based on nesting sites and frequent sightings of vultures, a total of six 'hotspots' were identified in the areas of Moulvibazar, Habiganj, Haor Basin, Mymensingh, Sundarbans (northern end) and Barisal. The total population of the White-rumped Vulture in suitable habitats across the country shows that numbers have drastically declined from 1,972 to 816 (nearly 60% drop) in four years. In two consecutive breeding seasons only 5 out of 32 and 8 out of 31 nests were successful in producing fledglings (one from each nest). The overall breeding success was very low (15.6–25.8%). The reason for such poor breeding success was sudden death or disappearance of parent birds, apparently due to poisoning by diclofenac, a veterinary drug used to treat livestock ailments. The project identified poisoning as the principal cause of vulture decline. Although the Government of Bangladesh banned use of veterinary diclofenac from 25 October 2010, 53% of the veterinary drug stores still sell it illegally. Awareness campaigns have made people aware of vulture conservation and the adverse effects of diclofenac.

***Forktail* 29: 52–56.**

User Forum

Different facilities for users on www.bnhsenvis.nic.in website are as follows:

- Users can search through more than 16,600 bibliographical references on Indian birds.
- Users can search for information from the many databases developed by the Centre. Databases include Endemic birds of India, Threatened birds of India, Important Bird Areas (IBAs), Birds in CITES, Marine birds of India, and others.
- List of other ENVIS Centres on various subject areas for navigating through information on different subjects related to the environment.
- Link to the websites and journals pertaining to Avian Ecology are available.
- Kid's Centre aimed towards school-going children provides interesting facts on birds.
- All issues of BUCEROS, the Centre's newsletter, are available for download in PDF format.
- Informative Powerpoint presentations on birds are also available for download.
- Glossary has more than 300 ornithological terms explained.
- Online query facility for users to drop a query to us.
- Contacts of eminent experts in ornithological studies have been given.

Request for Articles and Literature

Dear Readers,

1) You are welcome to contribute articles, photographs pertaining to avian ecology, to our newsletter.
2) To strengthen our databases we would request you to send us literature which is not available on our website.

Feedback and Queries

You can send your feedback pertaining to our website and BUCEROS newsletter via email or through our website. Any queries related to avian ecology can also be sent to bnhs@envis.nic.in.

Eurasian Spoonbill *Platalea leucorodia*
Photograph: Parveen Shaikh

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BOMBAY NATURAL HISTORY SOCIETY

Founded in 1883 for the study of natural history, the Bombay Natural History Society (BNHS) is now one of the premier research and conservation organisations in the country. The Society publishes a journal, the *Journal of the Bombay Natural History Society*, devoted to natural history and also has a popular publication, *Hornbill*, for the layman. It has also published a number of books on wildlife and nature. Its library has a large collection of books and scientific journals on wildlife and the environment. The Society's invaluable collection of bird, mammal, reptile, amphibian and insect specimens has been recognised as a National Heritage Collection.

Membership of the Society is open to individuals and institutions within India and abroad. For more details, please write to:

Membership Officer
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